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RECORDS OF SOME FISH PARASITES FRCM SHATT-AL-ARAB RIVER AND THE NORTH WEST OF THE ARAB GULF

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During the last fifteen years or so, rapid industrial activities around Shatt- Al- Arab river have been achieved. These resulted in a heavy impact on the aquatic environment (Hassan & Awad, 1980; Al- Daham et al., 1981). The area of Shatt- Al- Arab river represents a transitional zone for the anadromous as well as the euryhaline fishes. Therefore it is important from the parasitic fauna point of view, and to some of the migratory birds. Above all, fish culture industry in this area, and the release of carps in the southern marshes of Iraq has developed moderately during the last years.

Few works has been done on the parasitic fauna of the fishes of Shatt- Al- Arab river and the Arab Gulf, as reviewed by Mhaisen (1980). These include descriptions of two ectoparasitic isopods from the Arab Gulf (Ahmed, 1970a,b) and different aspects of fish parasites from Shatt- Al- Arab river and its branches (Al- Hadithi & Jawad, 1975; Al- Hadithi & Habash, 1977; Habish, 1977; Sharma, 1977; Bhatti, 1979; Habash &

Daoud, 1979; Al- Hadithi et al., 1980; Mhaisen, 1982; Khamees, 1983; Al- Hasani, 1985 and Al- Salim, 1985).

It is so important to know the parasitic fauna of a community, as this knowledge is necessary for management and control applications(Shulman, 1961). The scarcity of available informations, and the importance of the region, explained above, had led to undertake the present investigation.

MATERIALS AND METHODS

During the period from February 1978 till January 1984, irregular samples of fishes, mainly for teaching purposes, were taken from the following regions and places:-

- Shatt- Al- Arab river at Basrah city and two of its side branches. vis. Ashar Canal and Tannuma Canal.
- North west of the Arab Gulf within the territorial waters of the Repuplic of Iraq.
- Three fish markets at Basrah Governorate, namely Ashar Fish Market, Basrah Fish Market and Fao Fish Market.
- Basrah University Fish Farm at the College of Agriculture, Tannuma.

Some of the fishes were dissected for ecto- and endoparasites in the markets where they were bought, and on ship in the case of the fishes taken from the Arab Gulf. Other fishes were brought to the laboratory for parasitological examination. Parasite fixation, preservation and staining followed the methods explained by Khamees (1983).

RESULTS

Forty- one species of both freshwater and marine fishes belonging to 28 families (Table 1) were examined. Listing of fish species and families followed that of Al- Daham (1982). Fifteen fish species were infected. The following parasites, arranged according to their phylogenetic order, were recorded:-

Ichthyophthirius multifiliis Fouquet, 1876

Trichodina domerguei (Wallengren, 1897)

Clinostomum complanatum (Rud., 1819)

Bothriocephalus gowkongensis Yeh, 1955

Contracaecum sp.

Neoechinorhynchus agilis (Rud., 1819)

Argulus foliaceus L., 1761

Ergasilus mosulensis Rahemo, 1982

Ichthyoxenus asymmetrica Ahmed, 1970

Lernaea cyprinacea L., 1761

Nerocila heterozota Ahmed, 1970

The localities of the hosts and the parasite- host list are shown in Table (2).

DISCUSSION

1- The ciliated protozoan **Ichthyophthirius multifiliis** has been recorded previously in Iraq from two mugilid and two cyprinid fish from Baghdad, Mosul and Basrah (Herzog, 1969; Fattohy, 1975 and Khamees, 1983 respectively). The present investigation revealed its occurrence from the cyprinid fish **Carasobarbus luteus**

together with two new hosts of the same family, namely **Aspius vorax** and **Garra rufa rufa.**

2- The other ciliated protozoan, **Trichodina domerguei,** was found earlier on the skin of eight fish species taken from fish markets in Baghdad (Shamsuddin **et al.**, 1971). Its record here is from the carp, **Cyprinus carpio,** from Basrah University Fish Farm. The unfavoured ecological conditions of this farm contribute to this infection.

3- The metacercariae of **Clinostomum complanatum** were recorded for the first time in Iraq by Khamees (1983) from **Carasobarbus luteus** at Basrah. The present study shows their presence from the above named fish together with other four fish species (Table 2) representing new hosts for this parasite in Iraq.

4- The cestode **Bothriocephalus gowkongensis** was recorded for the first time in Iraq from **Carasobarbus luteus** at Basrah (Khamees, 1983), and here is another record from the same fish.

5- The nematode larvae of the genus **Contracaecum** were recorded from 14 fish species as reviewed by Mhaisen (1980). These include the fish hosts that found to harbour such parasite in the present work, so none of these fishes represents new host neither from Basrah nor from Iraq.

6- Previous records of the acanthocephalan **Neoechinorhynchus agilis** were from **Carasobarbus luteus** and **Liza abu** from Basrah only (Habash & Daoud, 1979; Al- Hadithi **et al.**, 1980 and Khamees, 1983). The present study gives another record for this parasite in **L. abu.**

7- Earlier records of the crustacean **Argulus foliaceus** were from two cyprinid fish from Baghdad (Herzog, 1969) and from **L. abu**

from Basrah (Khamees, 1983). The occurrence here gives the second record from **L. abu** and the first record from **L. dussumieri.**

8- The crustacean **Ergasilus mosulensis** was recorded for the first time in Mosul from the gills of **L. abu** by Rahemo (1982) and then from Basrah on the gills of both **L. abu** and **Carasobarbus luteus** by Khamees (1983). In the present study, another record for this parasite was documented from both above mentioned fish species.

9- The isopod **Ichthyoxenus asymmetrica** was described for the first time on the gills of **Cyonglossus lingua** from the Arab Gulf within the Iraqi territorial waters (Ahmed, 1970a). Here it was found on the gills of **Chirocentrus dorab** from the Arab Gulf also, which represents a new host record.

10- The anchor worm **Lernaea cyprinacea** was recorded from 10 fish species from Baghdad (Al- Hamed & Hermiz, 1973 and Khalifa **et al.**, 1978) and from two cyprinid fishes (**Cyprinus carpio** and **Carassius auratus**) from Basrah University Fish Farm (Mhaisen, 1982). Another two fish species (**Aphanius dispar** and **Gambusia affinis**) from the same farm were also infected during the period of this study, adding two new host records.

11- The isopod **Nerocila heterozota** was described for the first time on the gills of **Cynoglossus lingua** from the Arab Gulf (Ahmed, 1970b). Two new hosts were recorded for this parasite in the present investigation, namely **Ilisha megaloptera** and **Sphyraena jello** both from the Arab Gulf.

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SUMMARY

Between February 1978 and January 1984, investigation of the ecto and endoparasites was carried out on fish samples taken from the north western region of the Arab Gulf, Shatt- Al-Arab river, two branches of Shatt- Al- Arab river, three fish markets in Basrah Province and from Basrah University Fish Farm. Forty- one fish species belonging to 28 families were examined. Fifteen of these species were infected with different parasites. The eleven parasites recorded were:- **Ichthyophthirius multifiliis, Trichodina domerguei, Clinostomum complanatum, Bothriocephalus gowkongensis, Contracaecum sp., Neoechinorhynchus agilis, Argulus foliaceus, Ergasilus mosulensis, Ichthyoxenus asymmetrica, Lernaea cyprinacea** and **Nerocila heterozota.** Some of these parasites represent new host records in Basrah, while others represent new host records in Iraq.

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TABLE 1: List of fish examined during the period of the present investigation. Asterisks refer to the infected fishes.

Family Orectolobidae

Chiloscyllium griseum Muller & Henle, 1841

Family Clupeidae

Hilsa ilisha (Hamilton- Buchanan, 1822).

***Ilisha megaloptera** (Swainson, 1839).

Nematalosa nasus (Bloch, 1795).

Family Chirocentridae.

***Chirocentrus dorab** (Forskal, 1775).

Family Synodontidae.

Saurida tumbil (Bloch, 1795).

Family Cyprinidae.

Alburnus capito Heckel, 1843.

***Aspius vorax** Heckel, 1843.

*Carasobarbus luteus (Heckel, 1843).

*Carassius auratus (L., 1758).

*Cyprinus carpio L., 1758.

*Garra rufa rufa (Heckel, 1843).

*Mesopotamichthys sharpeyi sharpeyi (Gunther, 1874).

Tor grypus (Heckel, 1843).

Family Bagridae.

Mystus halepensis (Valenciennes, 1839).

Family Heteropneustidae.

*Heteropneustes fossilis (Bloch, 1797).

Family Ariidae

Arius thalassinus (Rueppell, 1835).

Family Belonidae

Strongylura strongylura (Van Hasselt, 1823).

Family Cyprinodontidae

*Aphanius dispar (Rueppell, 1828).

Family Poeciliidae

*Gambusia affinis (Baird & Girard, 1853).

Family Platycephalidae

Platycephalus indicus (L., 1758).

Family Theraponidae

Eutherapon theraps (Cuvier, 1829).

Family Sillaginidae

Sillago sihama (Forskal, 1775).

Family Carangidae

Caranx sexfasciatus (Quoy & Gaimard, 1824)

Megalaspis cordyla (L., 1758).

Scomberoides tol (Cuvier, 1831).

Family Formionidae

Formio niger (Bloch, 1792).

Family Lethrinidae

Lethrinus nebulosus (Forskal, 1775).

Family Sparidae

Acanthopagrus berda (Forskal, 1775).

Family Sciaenidae

Johnius carutta Bloch, 1793.

Otolithes ruber (Bloch & Schneider, 1801).

Family Scatophagidae

Scatophagus argus (L., 1766).

Family Mugilidae

***Liza abu** (Heckel, 1843).

***Liza dussumieri** (Valenciennes, 1836).

Family Sphyraenidae

***Sphyraena jello** Cuvier, 1829

Family Polynemidae

Polydactylus sextarius (Bloch & Schneider, 1801).

Family Gobiidae

Pseudapocryptes dentatus (Valenciennes, 1837).

Family Stromateidae

Pampus argenteus (Euphrasen, 1788)

Family Mastacembelidae

Mastacembelus zimach (Walbaum, 1792).

Family Soleidae

Solea elongata Day, 1877

Family Cynoglossidae

***Cynoglossus lingua** Hamilton- Buchanan, 1822

TABLE 2: Parasite- hose list of fishes taken from Ashar Fish Market (A. F. M.), Basrah Fish Market (B. F. M.), Fao Fish Market (F. F. M.), Shatt- Al- Arab River (S. A. R.), Arab Gulf (A. G.) and Basrah University Fish Farm (B. U. F. F.).

Ichthyophthirius multifiliis	
***Aspius vorax**	B. F. M.
Carasobarbus luteus	A. F. M.
***Garra rufa rufa**	S. A. R.
Trichodina domerguei	
Cyprinus carpio	B. U.F.F.
Clinostomum complanatum	
***Aphanius dispar**	S. A. R.
***Aspius vorax**	B. F. M.
Carasobarbus luteus	A. F. M.
***Gambusia affinis**	S. A. R.
***Heteropneustes fossilis**	S. A. R.
Bothriocephalus gowkongensis	
Carasobarbus luteus	B. F. M.
Contracaecum sp.	
Aspius vorax	B. F. M.
Carasobarbus luteus	B. F. M.
Heteropneustes fossilis	S. A. R.
Liza abu	A. F. M.
Mesopotamichthys sharpeyi sharpeyi	A. F. M.
Neoechinorhynchus agilis	
Liza abu	A. F. M. & B. F. M.
Argulus foliaceus	

Liza abu	A. F. M.
*Liza dussumieri	S. A. R.
Ergasilus mosulensis	
Carasobarbus luteus	B. F. M
Liza abu	A. F. M.
Ichthyoxenus asymmetrica	
*Chirocentrus dorab	F. F. M. & A. G.
Lernaea cyprinacea	
*Aphanius dispar	B. U. F. F.
Carassius auratus	B. U. F. F.
Cyprinus carpio	B. U. F. F.
*Gambusia affinis	B. U. F. F.
Nerocila heterozota	
Cynoglossus lingua	F. F. M.
*Ilisha megaloptera	F. F. M.
*Sphyraena jello	F. F. M. & A. G.

*New host record in Iraq.

الخلاصة

خلال لفترة المحصورة ما بين شباط ١٩٧٨ وكانون الثاني ١٩٨٤ اجريت دراسة حول الطفيليات الخارجية والداخلية لعينات من الاسماك المأخوذة من منطقة شمال غرب الخليج العربي، ونهر شط العرب، وفرعين من افرع شط العرب، وثلاثة من اسواق الاسماك في محافظة البصرة، ومن مزرعة اسماك جامعة البصرة. لقد تم فحص ٤١ نوعاً من الاسماك العائدة الى ٢٨ عائلة، وكان ١٥ نوعاً من هذه الاسماك مصاباً بطفيليات مختلفة. اما الطفيليات الاحد عشر المسجلة فهي:— **Ichthyophthirius multifiliis, Trichodina domerguei, Clinostomum complanatum, Bothriocephalus gowkongensis, Contracaecum sp., Neoechinorhynchus agilis, Argulus foliaceus, Ergasilus mouleensis, Ichthyoxenus asymmetrica, Lernaea cyprinacea, Nerocila heterozota.** تمثل بعض هذه الطفيليات تسجيلات لمضيفات جديدة في البصرة، في حين يمثل البعض الاخر منها تسجيلات مضيفات جديدة في العراق.